

Application No.: 09/997,861

Docket No.: 60680-1489

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A valve stem seal assembly comprising an elastomeric seal body and a cylindrical retainer defining a longitudinal axis, said retainer comprising an upper end portion that circumferentially supports said seal body; said elastomeric seal body comprising an annular valve stem seal adapted for sealingly engaging a reciprocally movable valve stem; said cylindrical retainer further comprising a lower extremity defining a radially outwardly extending spring seat flange having an uninterrupted outer periphery defined between an upper surface and a bottom surface, said including a radially extending uninterrupted circumferential bottom surface adapted to bear against a cylinder head deck, wherein said bottom surface comprises at least one protrusion spaced radially inwardly from said outer periphery and extending axially downwardly therefrom, said protrusion ~~and~~ adapted for engagement with the cylinder head deck.

2. (Previously Presented) The valve stem seal of claim 1 wherein said protrusion on said bottom surface of said spring seat flange that engages said depression is adapted to resist torque forces applied to said spring seat flange by mechanical vibrations.

3. (Withdrawn) The valve stem seal of claim 2 wherein said retainer is comprised of a hardened metal, said protrusion is a circular convex bump, and whereby sliding contact is avoided between surfaces of said flange and cylinder head deck to prevent wear between said surfaces.

4. (Withdrawn) The valve stem seal of claim 3 wherein said valve stem seal comprises a plurality of said protrusions on said bottom surface of said flange.

5. (Currently Amended) A valve stem seal assembly comprising an elastomeric seal body and a cylindrical retainer defining a longitudinal axis, said retainer comprising an upper end portion that circumferentially supports said seal body; said elastomeric seal body comprising an annular valve stem seal adapted for sealingly engaging a reciprocally movable valve stem; said cylindrical retainer further comprising a lower extremity defining a radially outwardly extending spring seat flange having an uninterrupted outer periphery defined between an upper

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surface and a bottom surface, said ~~including a radially extending uninterrupted circumferential~~
bottom surface adapted to bear against a cylinder head deck, wherein said bottom surface
comprises at least one sharp edged protrusion spaced radially inwardly from said outer periphery
and extending axially downwardly therefrom, said protrusion ~~and adapted to bite into the~~
surface of the cylinder head deck at a position that corresponds to said protrusion.

6. (Original) The valve stem seal of claim 5 wherein said sharp edged protrusion on said bottom surface of said spring seat flange that engages the cylinder head deck is adapted to resist torque forces applied to said spring seat flange by mechanical vibrations.

7. (Withdrawn) The valve stem seal of claim 6 wherein said retainer is comprised of a hardened metal, said protrusion is a jagged structure extending from said bottom surface of said flange, whereby sliding contact is avoided between surfaces of said flange and the cylinder head deck to prevent wear between said surfaces.

8. (Withdrawn) The valve stem seal of claim 7 wherein said valve stem seal comprises a plurality of said protrusions on said bottom surface of said flange.

9. (Currently Amended) A valve stem seal assembly comprising an elastomeric seal body and a cylindrical retainer defining a longitudinal axis; said retainer comprising an upper end portion that circumferentially supports said seal body; said elastomeric seal body comprising an annular valve stem seal adapted for sealingly engaging a reciprocally movable valve stem; said cylindrical retainer further comprising a lower extremity defining a radially outwardly extending spring seat flange having an uninterrupted outer periphery defined between an upper surface and a bottom surface, said ~~including a radially extending uninterrupted circumferential~~
bottom surface adapted to bear against a cylinder head deck, wherein said bottom surface comprises at least one sharp edged protrusion spaced radially inwardly from said outer periphery
and extending axially downwardly therefrom, said protrusion also extending radially along said bottom surface, and said protrusion being adapted to bite into the surface of the cylinder head deck along a radial area thereof that corresponds to said protrusion.

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10. (Original) The valve stem seal of claim 9 wherein said sharp edged protrusion on said bottom surface of said spring seat flange is adapted to engage the cylinder head deck and to thereby resist torque forces applied to said spring seat flange by mechanical vibrations.

11. (Withdrawn) The valve stem seal of claim 10 wherein said retainer is comprised of a hardened metal, said protrusion has a saw-tooth cross-section extending from said bottom surface of said flange adapted to engage the cylinder head deck, whereby sliding contact is avoided between surfaces of said flange and cylinder head deck to prevent wear between said surfaces.

12. (Withdrawn) The valve stem seal of claim 11 wherein said valve stem seal comprises a plurality of said protrusions on said bottom surface of said flange.

13 - 16 (Cancelled)

17. (Previously Presented) The valve stem seal of claim 1 wherein said protrusion is adapted for engagement with at least one depression in the cylinder head deck that corresponds to said protrusion.

18. (Previously Presented) The valve stem seal of claim 17 wherein said protrusion includes at least one sharp edge and is adapted to bite into the surface of the cylinder head deck at a position that corresponds to said protrusion to thereby create said depression.

19. (Currently Amended) The valve stem seal of claim 18, wherein said protrusion also extends radially along said bottom surface and adapted to bite into the surface of the cylinder head deck along a radial area thereof that corresponds to said protrusion.

20. (New) The valve stem seal of claim 1 wherein said entire flange is unbroken between said upper surface and the lowermost axial extent of said protrusion.

21. (New) The valve stem seal assembly of claim 5 wherein said entire flange is unbroken between said upper surface and the lowermost axial extent of said protrusion.

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22. (New) The valve stem seal assembly of claim 9, wherein said entire flange is unbroken between said upper surface and the lowermost axial extent of said protrusion.